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=> s (dna or polynucleotide or rna or nucleic acid) and expansin
 2 FILES SEARCHED...
 L1 289 (DNA OR POLYNUCLEOTIDE OR RNA OR NUCLEIC ACID) AND EXPANSIN

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=> s l1 and 1985-1993/py
 L2 0 L1 AND 1985-1993/PY

=> s l1 and 1994-1995/py
 L3 3 L1 AND 1994-1995/PY

=> d l3 1-3 ibib ab

L3 ANSWER 1 OF 3 MEDLINE on STN
 ACCESSION NUMBER: 96016146 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 7568110
 TITLE: Molecular cloning and sequence analysis of expansins--a highly conserved, multigene family of proteins that mediate cell wall extension in plants.
 AUTHOR: Shcherban T Y; Shi J; Durachko D M; Guiltinan M J; McQueen-Mason S J; Shieh M; Cosgrove D J
 CORPORATE SOURCE: Department of Biology, Pennsylvania State University, University Park 16802, USA.
 SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1995 Sep 26) 92 (20) 9245-9.
 Journal code: 7505876. ISSN: 0027-8424.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English

FILE SEGMENT: Priority Journals; Space Life Sciences
OTHER SOURCE: GENBANK-U30382; GENBANK-U30460; GENBANK-U30476;
GENBANK-U30477; GENBANK-U30478; GENBANK-U30479;
GENBANK-U30480; GENBANK-U30481

ENTRY MONTH: 199510

ENTRY DATE: Entered STN: 19951227
Last Updated on STN: 19951227
Entered Medline: 19951027

AB Expansins are unusual proteins discovered by virtue of their ability to mediate cell wall extension in plants. We identified cDNA clones for two cucumber expansins on the basis of peptide sequences of proteins purified from cucumber hypocotyls. The **expansin** cDNAs encode related proteins with signal peptides predicted to direct protein secretion to the cell wall. Northern blot analysis showed moderate transcript abundance in the growing region of the hypocotyl and no detectable transcripts in the nongrowing region. Rice and Arabidopsis **expansin** cDNAs were identified from collections of anonymous cDNAs (expressed sequence tags). Sequence comparisons indicate at least four distinct **expansin** cDNAs in rice and at least six in Arabidopsis. Expansins are highly conserved in size and sequence (60-87% amino acid sequence identity and 75-95% similarity between any pairwise comparison), and phylogenetic trees indicate that this multigene family formed before the evolutionary divergence of monocotyledons and dicotyledons. Sequence and motif analyses show no similarities to known functional domains that might account for **expansin** action on wall extension. A series of highly conserved tryptophans may function in **expansin** binding to cellulose or other glycans. The high conservation of this multigene family indicates that the mechanism by which expansins promote wall extensin tolerates little variation in protein structure.

L3 ANSWER 2 OF 3 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1995:499802 BIOSIS
DOCUMENT NUMBER: PREV199598523352
TITLE: Molecular cloning and sequence analysis of expansins-a

highly conserved, multigene family of proteins that mediate cell wall extension in plants.

AUTHOR(S): Shcherban, Tatyana Y.; Shi, Jun; Durachko, Daniel M.;
Guiltinan, Mark J.; McQueen-Mason, Simon J.; Shieh, Mark;
Cosgrove, Daniel J. [Reprint author]

CORPORATE SOURCE: Dep. Biol., Pennsylvania State Univ., University Park, PA
16802, USA

SOURCE: Proceedings of the National Academy of Sciences of the
United States of America, (1995) Vol. 92, No. 20,
pp. 9245-9249.
CODEN: PNASA6. ISSN: 0027-8424.

DOCUMENT TYPE: Article

LANGUAGE: English

OTHER SOURCE: Genbank-U30460; Genbank-U30476; Genbank-U30477;
Genbank-U30478; Genbank-U30479; Genbank-U30480;
Genbank-U30481; Genbank-0382

ENTRY DATE: Entered STN: 29 Nov 1995
Last Updated on STN: 27 Jan 1996

AB Expansins are unusual proteins discovered by virtue of their ability to mediate cell wall extension in plants. We identified cDNA clones for two cucumber expansins on the basis of peptide sequences of proteins purified from cucumber hypocotyls. The **expansin** cDNAs encode related proteins with signal peptides predicted to direct protein secretion to the cell wall. Northern blot analysis showed moderate transcript abundance in the growing region of the hypocotyl and no detectable transcripts in the nongrowing region. Rice and Arabidopsis **expansin** cDNAs were identified from collections of anonymous cDNAs (expressed sequence tags). Sequence comparisons indicate at least four distinct **expansin** cDNAs in rice and at least six in Arabidopsis. Expansins are highly conserved in size and sequence (60-87% amino acid sequence identity and 75-95% similarity between any pairwise comparison), and phylogenetic trees

indicate that this multigene family formed before the evolutionary divergence of monocotyledons and dicotyledons. Sequence and motif analyses show no similarities to known functional domains that might account for **expansin** action on wall extension. A series of highly conserved tryptophans may function in **expansin** binding to cellulose or other glycans. The high conservation of this multigene family indicates that the mechanism by which expansins promote wall extension tolerates little variation in protein structure.

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ACCESSION NUMBER: 95297250 EMBASE
DOCUMENT NUMBER: 1995297250
TITLE: Molecular cloning and sequence analysis of expansins - A highly conserved, multigene family of proteins that mediate cell wall extension in plants.
AUTHOR: Shcherban T.Y.; Shi J.; Durachko D.M.; Guiltinan M.J.; McQueen-Mason S.J.; Shieh M.; Cosgrove D.J.
CORPORATE SOURCE: Department of Biology, Pennsylvania State University, University Park, PA 16802, United States
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1995) Vol. 92, No. 20, pp. 9245-9249. .
ISSN: 0027-8424 CODEN: PNASA6
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 951023
Last Updated on STN: 951023

AB Expansins are unusual proteins discovered by virtue of their ability to mediate cell wall extension in plants. We identified cDNA clones for two cucumber expansins on the basis of peptide sequences of proteins purified from cucumber hypocotyls. The **expansin** cDNAs encode related proteins with signal peptides predicted to direct protein secretion to the cell wall. Northern blot analysis showed moderate transcript abundance in the growing region of the hypocotyl and no detectable transcripts in the nongrowing region. Rice and Arabidopsis **expansin** cDNAs were identified from collections of anonymous cDNAs (expressed sequence tags). Sequence comparisons indicate at least four distinct **expansin** cDNAs in rice and at least six in Arabidopsis. Expansins are highly conserved in size and sequence (60-87% amino acid sequence identity and 75-95% similarity between any pairwise comparison), and phylogenetic trees indicate that this multigene family formed before the evolutionary divergence of monocotyledons and dicotyledons. Sequence and motif analyses show no similarities to known functional domains that might account for **expansin** action on wall extension. A series of highly conserved tryptophans may function in **expansin** binding to cellulose or other glycans. The high conservation of this multigene family indicates that the mechanism by which expansins promote wall extension tolerates little variation in protein structure.

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FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, EMBASE, USPATFULL' ENTERED AT 15:55:24 ON 16 FEB 2006

L1 289 S (DNA OR POLYNUCLEOTIDE OR RNA OR NUCLEIC ACID) AND EXPANSIN
L2 0 S L1 AND 1985-1993/PY
L3 3 S L1 AND 1994-1995/PY

=> log y